REMARKS

Applicants have carefully reviewed the contents of the Office Action mailed July 30, 2002. Reconsideration is respectfully requested in view of the foregoing amendments and the comments set forth below.

By this Amendment, claims 1-30 are cancelled and replaced with new claims 31-62. Independent claim 31 is generic to the embodiments shown in all the figures. Therefore, all of the cancelled claims have been rewritten to overcome formal matters. In particular, claims 31-36 are generic and at least claims 53-58 read on the elected species shown in Figure 25. Accordingly, claims 31-62 are pending in the application, with at least claims 31-36 and 53-58 directed to the elected species.

Claims 1-3 were objected to because of the informalities described at the bottom of page three of the Action. In addition, claims 1-3 were rejected as being indefinite for the reasons spanning pages 4-5 of the Action. New claims 31-62 are based on original claims 1-30, but have been drafted taking into consideration the Examiner's comments. Accordingly, it is respectfully submitted that claims 31-62 are fully definite under 35 U.S.C. §.112, second paragraph.

Claims 1-3 were rejected under 35 U.S.C. §. 102(b) as being anticipated by German Patent, DE-3,007,307 as explained in the paragraphs spanning pages 5 and 6 of the Action. As stated above, claims 1-3 have been cancelled and replaced by new claims 31-62. Accordingly, the above rejection is moot. However, as new claims 31-62 are based on original claims 1-30, the following comments are presented.

As explained in the Summary of the Invention of the instant application, a connecting element is provided for mechanically connecting constructive elements that are difficult to weld or solder together. The connecting element of the invention allows larger tolerances and

dimensional deviations for the tensioning element and/or the constructive elements, but at the same time creates a strong holding force. The strength of the connection and the generating holding force is relatively high and it is possible to detach the connected elements if necessary. This connecting element is achieved with an elastically deformable tensioning element which applies a holding force in its elastically deformed state onto a constructive element that is to be connected thus generating a non-positive connection of the constructive element with at least one of the tensioning element and another constructive element where the tensioning element has a length in the axial direction and comprises a spring material consisting of a superelastic shape memory alloy elastically deformable in the tensioning element and the constructive element to be connected is inserted in the axial direction of the tensioning element.

The holding force of the claimed invention is applied when the tensioning element is an elastically deformed state. As explained on page 7, lines 16-26 of the instant specification, the tensioning element is in its austenitic crystalline state (relaxed state) when the constructive element is inserted and then, the tensioning element is converted to a tensioned-induced, martensitic state during the elastic expansion of the tensioning element. According to the invention, no elongation effects (i.e., shrinking effects) occur for the generation of the holding force, but merely bending forces or shear forces (claim 34). That is, the temperature of the connecting or tensioning element need not be changed in order to connect the constructive elements. As a result of the invention's tensioning element's change of geometric shape, the usability of a tensioning element according to the invention is increased by a factor of three as compared to a known shrinking sleeve made of a shape memory alloy.

German Patent DE3007307 (hereinafter DE'307) is directed to a shrunk joint made of an alloy having a shape memory that has a 2-way effect. However, DE '307 discloses a shrinking

sleeve that has to be cycled in temperature in order to be used as a connecting element. The shrinking sleeve taught by DE '307 is cooled (e.g., via liquid nitrogen), to a temperature below the martensitic conversion point so that it is elastically deformed to have a larger diameter and, as a result, parts 1 and 2 can be inserting in the connective sleeve 5, as shown in Figs. 1 and 2. Then, the assembly is warmed to a temperature above the martensitic conversion point where the connective sleeve 6 radial contracts to a smaller diameter, as shown in Fig. 3. Thus, contrary to the claimed invention, DE '307 applies its holding force in its contracted state. Accordingly, DE '307 cannot anticipate the claimed invention, as it holds elements when contracted in an austenitic state. This is the opposite of the claimed connecting element.

Consequently, the connecting element of the claimed invention can be opened easily at room temperature in order to remove constructive elements, if necessary. This removal does not require a cooling process as taught by DE '307 and is another advantage of the instant invention.

The claimed connective element is able to connect elements with a similar diameter (e.g., guidance wires for catheters, vessel supports (stents)) as explained on page 6, lines 25-29 of the instant specification. In addition, the claimed invention allows greater tolerances than those achieved by the DE '307 shrunk element. The advantages are enabled by a greater elastic change of the connecting element's form in order to insert and connect constructive elements. With reference to the elected species Fig. 25, which is a longitudinal section as to Fig. 24, the relaxed state of the clamping element 10 is shown in Figure 22 as an oval and this clamping element may be pre-tensioned to a circle. The partially relaxed state of the clamping element holding a constructive element 2 is a slightly expanded oval in one direction and shorter in another direction than that of the relaxed state. It is this unisoptropic change in form (e.g., from

round to oval or from oval to round) of the clamping sleeve upon the insertion of constructive elements that allows smaller elements to be connected and/or higher tolerances.

Dependent claim 35 recites that the holding force is produced when the tensioning element is in a tension-induced martensitic state. As DE '307 clearly teaches that the martensitic state allows the shrunk joint to elastically expand or deform so that the elements to be connected can be inserted in the shrunk joint, a holding force cannot be produced by the martensitic state taught by DE '307. Similarly, the shrunk joint taught by DE '307 is contracted to its related state in order to hold the elements to be connected. Thus, there can be no bending forces or shearing forces associated with the relaxed state of DE '307.

In view of the foregoing amendments and remarks comment is respectfully submitted that claim 31-36 and 53-58 are patentable over the art of record. Accordingly, since generic claim 31 is patentable over the art of record, it is respectfully submitted that rejoinder of claim 37-52 and 59-62 is appropriate. Accordingly, applicants request the issuance of the Notice of Allowability, rejoining all of the species of the invention and indicating that claims 31-62 are allowed over the prior record.

This Amendment cancels 30 claims and adds 32 claims for a net additional two claims. Enclosed is the remittance of $36.00 for the two additional claims. If no check is attached, please charge our Deposit Account No. 22-0261 and notify us accordingly.

Should the Examiner believe that a conference would advance the prosecution of this application, the Examiner is requested to telephone the undersigned counsel to arrange such conference.

Respectfully submitted,

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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The paragraph spanning lines 1-11 of page 2 has been amended as follows:

In many ranges of technology, there is the requirement to connect constructive elements mechanically, however, connections which allow detachment if necessary, are desired, too. A usual method is to use an elastically [to be detached] deformable tensioning element which applies a holding force in its elastically deformed state, onto one constructive element to be connected, thus generating a nonpositive connection of at least one constructive element with the tensioning element or with another constructive element. Principally, there are two ways of deforming the tensioning element elastically.